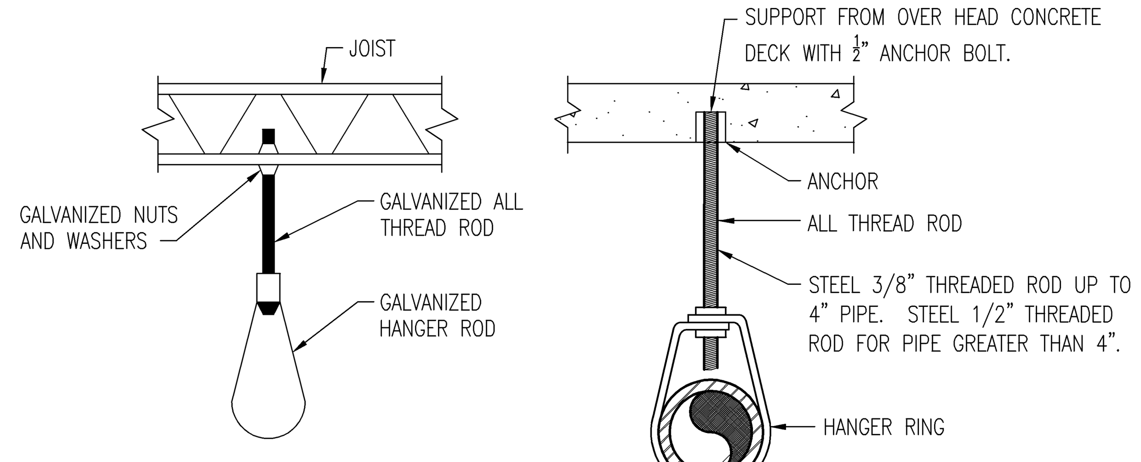


HANGER SPACING

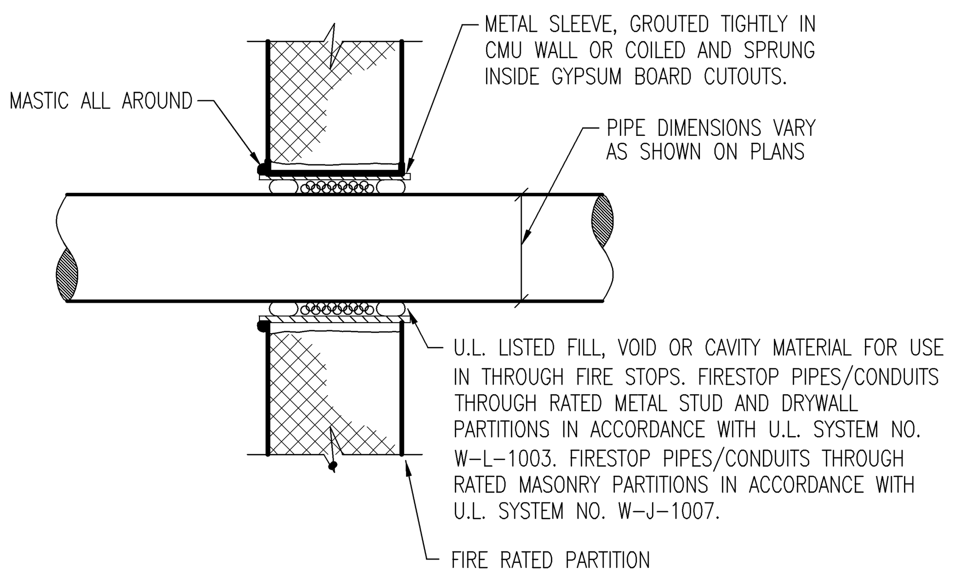
MAXIMUM DISTANCE BETWEEN HANGERS

PIPE SIZE	1" TO 1-1/4"	1-1/2" TO 8"
DISTANCE	12'-0"	15'-0"

PIPE HANGER DETAIL

NO SCALE

NFPA 13-1999, 6.2.2



FIRE BARRIER PENETRATION DETAIL

NO SCALE

3

FIRE PROTECTION GENERAL NOTES

1. FIRE PROTECTION SYSTEMS SHALL COMPLY WITH:

   NFPA 13 – 2007
   NFPA 22 – 2007

   VIRGINIA UNIFORM STATEWIDE BUILDING CODE 2006 EDITION (VUSBC) INCLUDING FIRE DEPARTMENT STANDARDS.
2. ARRANGE AND COMPLETE FINAL INSPECTIONS AND APPROVALS REQUIRED.
3. FIRE STOP ALL PENETRATIONS OF FIRE WALLS, CEILINGS, FLOORS, ROOFS, ETC. THE PENETRATION SYSTEM SHALL MATCH OR EXCEED THE FIRE RATING OF THE WALL OR FLOOR BEING PENETRATED. REFER TO ARCHITECTURAL PHASING PLANS FOR TEMPORARY FIRE PARTITIONS.
4. SPRINKLERS ARE TO BE COORDINATED WITH ALL ARCHITECTURAL FEATURES, DIFFUSERS, SPEAKERS, LIGHTING FIXTURES, CEILING SYSTEMS, AND STRUCTURAL SYSTEMS.
5. PROVIDE CABINET AND STOCK OF EXTRA SPRINKLER HEADS OF ALL TYPES USED IN ACCORDANCE WITH NFPA 13.
6. PROVIDE DETAIL AND INDICATE TYPE OF HANGERS TO INSTALLED FOR SPRINKLER PIPING. METHODS OF HANGING PIPES, HEADERS, AND BRANCHES SHALL BE IN ACCORDANCE WITH NFPA 13. HANGERS SHALL NOT INTERFERE WITH ANY OTHER TRADES.
7. ALL PIPING SHALL BE METAL. ALL GROOVED END PIPING SHALL BE APPROVED PRIOR TO INSTALLATION BY OWNER AND ENGINEER.
8. ALL SCREWED PIPING SHALL BE MIN. SCHEDULE 30 PIPE IN ACCORDANCE WITH SPECIFICATIONS ASTM A120 AND SHALL BE JOINED BY SCREWED JOINTS IN ACCORDANCE WITH SPECIFICATION ANSI B2.1.
9. PLAIN END FITTINGS WITH MECHANICAL COUPLINGS SHALL NOT BE USED.
10. ALL SPRINKLER PIPING & FITTINGS SHALL BE INSTALLED RUST-FREE, AND MAINTAINED RUST-FREE AT ALL TIMES.
11. AUTOMATIC SPRINKLER TEMPERATURE RATINGS OF FUSIBLE ELEMENTS SHALL BE ORDINARY, UNLESS NOTED OTHERWISE.
12. ALL VALVES FOR FIRE SERVICE SHALL BE LISTED BY THE UNDERWRITER'S LABORATORIES, INC. (UL) AND THE FACTORY MUTUAL LABORATORIES. VALVES SHALL BE FACTORY MARKED "UL" AND "FM", 175 PSI WORKING PRESSURE.
13. ALL VALVES ON THE FIRE PROTECTION SYSTEM SHALL BE ELECTRICALLY SUPERVISED. PROVIDE TAMPER SWITCHES. REFER TO ELECTRICAL DRAWINGS FOR MORE INFORMATION.
14. REFER TO SPECIFICATIONS FOR MORE INFORMATION.
15. FINAL SPRINKLER SHOP DRAWINGS SHALL BE SUBMITTED TO OWNER AND ENGINEER AND THEN TO BCOM AFTER APPROVAL. NO INSTALLATION SHALL BE PERMITTED UNTIL SPRINKLER SHOP DRAWINGS HAVE BEEN APPROVED BY THE ENGINEER AND BCOM. ALLOW TIME FOR MULTIPLE SUBMITTALS.
16. PIPE SHALL BE REAMED AND CLEANED BEFORE ASSEMBLY. THE ENTIRE PIPING SYSTEM SHALL BE FLUSHED CLEAN. THE UNDERGROUND PIPING SHALL BE FLUSHED BEFORE CONNECTION TO ANY ABOVE GROUND PIPING TO REMOVE ANY DEBRIS.
17. INDICATE THE TOTAL SQUARE FOOT AREA PROTECTED BY SYSTEM.
18. INDICATE THE NUMBER OF SPRINKLERS ON EACH RISER.
19. PROVIDE HEAD GUARDS ON SPRINKLE HEADS IN ELECTRIC, MECHANICAL, ELEVATOR, TELEPHONE, AND STORAGE ROOMS.
20. PROVIDE SMOOTH BORE CORROSION RESISTANT OUTLETS FOR INSPECTOR'S TEST VALVES GIVING FLOW EQUIVALENT TO 1 SPRINKLER.
21. FIRE SPRINKLER PIPING SHALL NOT BE LOCATED ABOVE ELECTRICAL PANELBOARDS PER ARTICLE 384-4 OF NFPA 70.
22. PROVIDE ADDITIONAL SPRINKLERS, PIPING, FITTINGS, APPURTENANCES, AND ALL OTHER WORK NECESSARY TO ACCOMMODATE ANY INTERIOR DESIGN LAYOUTS OR CHANGES TO SUCH LAYOUTS WHICH ARE OR MAY BE INCLUDED IN THE WORK. THESE SPRINKLERS AND ASSOCIATED WORK SHALL BE PROVIDED WHERE REQUIRED TO RESOLVE ANY CONFLICTS OR OTHER LAYOUT CHANGES NEEDED TO ACCOMMODATE ALL MISCELLANEOUS ITEMS (I.E. CEILING OFFSETS, SOPHIST, COVES, CODE INSPECTION/INTERPRETATIONS, STRUCTURAL SYSTEM CONFLICTS, ETC.) RELATED TO INTERIOR DESIGN CONFIGURATION CHANGES.
23. BUTTERFLY VALVES SHALL BE ALLOWED DOWNSTREAM OF THE DISCHARGE SIDE OF THE BACKFLOW PREVENTER.
24. CONTRACTOR SHALL VERIFY THE WATER SUPPLY BY PERFORMING A FIRE HYDRANT FLOW TEST PRIOR TO THE DESIGN.
25. THE CONTRACTOR SHALL REMOVE & REINSTALL ALL CEILING TILES & CUT CEILING TILES TO ACCOMMODATE SPRINKLER HEADS.

LEGEND & ABBREVIATIONS

Symbol	Description
———	FIRE SPRINKLER BRANCH PIPE
——F——	FIRE SPRINKLER MAIN LINE
— - — - —	SMOKE BARRIER (3)
++++++++	1 HOUR FIRE BARRIER
o——	PIPE TURN UP
⊂——	PIPE TURN DOWN (DN)
▽	SIDEWALL SPRINKLER HEAD
◎	STANDARD PENDENT HEAD
○	UPRIGHT PENDANT HEAD
●	CONCEALED PENDANT HEAD
[hatched dashed box]	REMOTE AREA BOUNDARY
⟨#⟩	HYDRAULIC REFERENCE POINT
[#]	NEW WORK NOTE DESIGNATION
⊖	DETAIL/RISER/ENLARGED PLAN SHEET WHERE CUT/SHOWN
FDC	FIRE DEPARTMENT CONNECTION
FP-1	FIRE PUMP MARK
FT	FEET
GPM	GALLONS PER MINUTE
HD	HEAD
HP	HORSE POWER
JP-1	JOCKEY PUMP MARK
NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
PSI	PRESSURE PER SQUARE INCH
RPZ	REDUCED PRESSURE ZONE
W/	WITH
WG	WATER GAUGE

FIRE SPRINKLER HEAD SCHEDULE

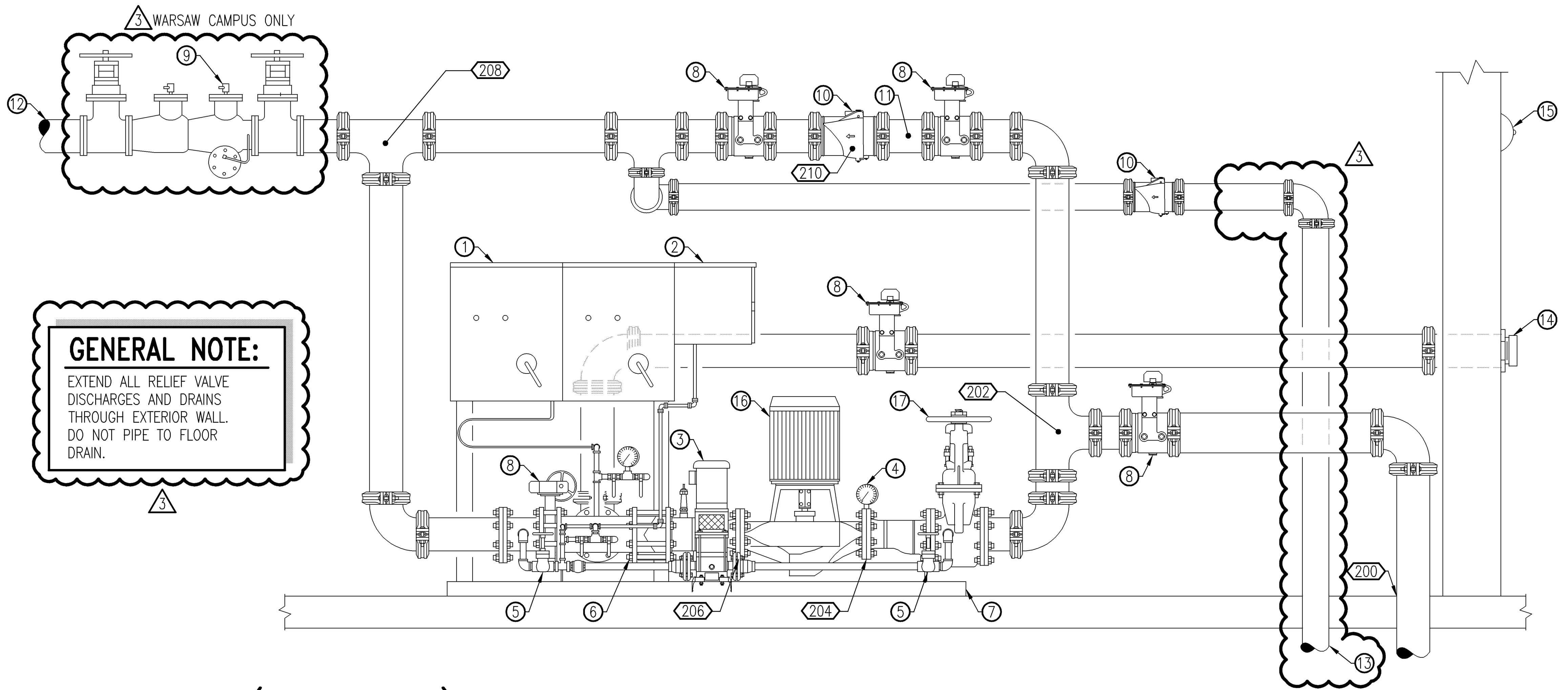
SYM.	MAKE	TYPE	RESPONSE	K	ORIFICE	TEMP.	LINK	FINISH	ESCUTCHEON FINISH	ESCUTCHEON ORIFICE	ESCUTCHEON CUP	ESCUTCHEON SKIRT
◎	VICTAULIC	PENDENT	QUICK	5.6	1/2"	155°	BULB	WHITE	WHITE	1/2"	REC	FLAT
▽	VICTAULIC	SIDEWALL	QUICK	5.6	1/2"	155°	BULB	BRASS	BRASS	1/2"	REC	FLAT
○	VICTAULIC	UPRIGHT	QUICK	5.6	1/2"	155°	BULB	BRASS	BRASS	1/2"	REC	FLAT
●	VICTAULIC	CONCEALED	QUICK	5.6	1/2"	155°	BULB	WHITE	WHITE	1/2"	REC	FLAT

WARSAW CAMPUS FLOW TEST RESULTS:

CONDUCTED 07-22-09
56 PSI STATIC
26 PSI RESIDUAL
RESIDUAL PRESSURE WITH HYDRANT OPEN AT CHINE CENTER (1 HYDRANT UP LINE) 10 PSI RESIDUAL PRESSURE WITH 2-1/4" STRAIGHT BORE DISCHARGE – 26 PSI – 772 GPM 10 PSI – 491 GMP

PUMP SCHEDULE

MARK	TYPE	MANUFACTURER	MODEL	LOCATION	VOLTAGE	HP	PHASE	GPM	FT WG	REMARKS
FP-1	PACKAGED VERTICAL FIRE PUMP	ARMSTRONG	F4516	WARSAW SPRINKLER ROOM	460	20	3	375 @ 50 PSI	–	SEE NOTES FOR FIRE PUMP DETAIL (FP-1)
JP-1	JOCKEY PUMP	ARMSTRONG	–	WARSAW SPRINKLER ROOM	208	1.5	3	10 @ 70 PSI	–	SEE NOTES FOR FIRE PUMP DETAIL (JP-1)
FP-2	PACKAGED VERTICAL FIRE PUMP	ARMSTRONG	F4516	GLENNS SPRINKLER ROOM	460	20	3	375 @ 50 PSI	–	SEE NOTES FOR FIRE PUMP DETAIL (FP-1)
JP-1	JOCKEY PUMP	ARMSTRONG	–	GLENNS SPRINKLER ROOM	208	1.5	3	10 @ 60 PSI	–	SEE NOTES FOR FIRE PUMP DETAIL (JP-1)



GENERAL NOTE:

EXTEND ALL RELIEF VALVE DISCHARGES AND DRAINS THROUGH EXTERIOR WALL. DO NOT PIPE TO FLOOR DRAIN.

1. FIRE PUMP CONTROL PANEL & TRANSFER SWITCH
2. JOCKEY PUMP CONTROL PANEL
3. JOCKEY PUMP (JP-1)
4. PRESSURE GAUGE
5. VALVE W/ TAMPER SWITCH
6. WAFER CHECK VALVE
7. FIRE PUMP PACKAGE SKIDS
8. BUTTERFLY VALVE
9. REDUCED PRESSURE BACKFLOW PREVENTER
10. CHECK VALVE
11. PUMP BYPASS
12. TO SPRINKLER SYSTEM
13. TO FIRE DEPARTMENT CONNECTION
14. FIRE PUMP TEST HEADER
15. ALARM BELL
16. VERTICAL FIRE PUMP (FP-1)
17. OS&Y VALVE W/ TAMPER SWITCH

FIRE PUMP DETAIL (FP-1 & FP-2)

NO SCALE

SPRINKLER NOTE:

CONTRACTOR SHALL DESIGN AND PROVIDE A FULLY AUTOMATIC WET PIPE FIRE EXTINGUISHING SPRINKLER SYSTEM TO PROVIDE COMPLETE COVERAGE THROUGHOUT THIS BUILDING. SPRINKLER SYSTEM DESIGN, MATERIALS AND INSTALLATION SHALL BE IN ACCORDANCE WITH NFPA 13 AND VIRGINIA UNIFORM STATEWIDE BUILDING CODE. SPRINKLER SYSTEM DESIGN SHALL BE BY HYDRAULIC CALCULATIONS FOR LIGHT, AND ORDINARY I HAZARD OCCUPANCIES. CONTARCT BID DOCUMENTS ARE TO SHOW INTENT ONLY.

PHASING NOTE FOR FIRE SPRINKLER.

ENTIRE SPRINKLER SYSTEM TO BE INSTALLED DURING PHASE I. REFER TO PHASING PLAN. PHASE I AND PHASE II OF THE PROJECT WILL BE SEPARATED BY A 1 HOUR WALL, UNTIL THE ENTIRE SYSTEM IS COMPLETED. LIBRARY WILL BE SEPARATED BY A 1 HOUR CONSTRUCTION ON BUILDINGS. COORDINATE THE INSTALLATION WITH DUCT WORK AND ELECTRICAL WORK AND SPRINKLER CONTRACTOR SHALL AVOID ALL DUCTWORK CONFLICTS, OR RELOCATE SPRINKLER INSTALLATION AT SPRINKLER CONTRACTOR COST. IF CONFLICT ARISES AFTER.

FIRE SPRINKLER HEAD NOTE

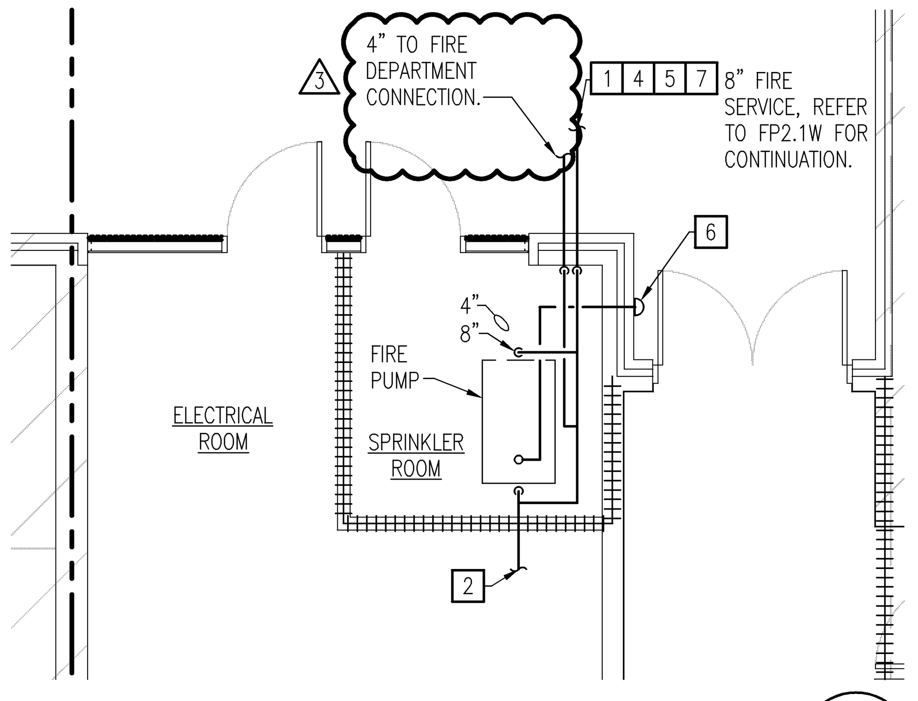
CONTRACTOR TO PROVIDE FLEXIBLE HEAD CONNECTIONS IN ACCORDANCE WITH THE REQUIREMENTS OF THE MANUFACTURER'S INSTALLATION INSTRUCTIONS INDICATED IN THE MOST RECENT UL LISTING.

LIBRARY NOTE

CONTRACTOR TO PROVIDE PROTECTION OF ALL BOOKS PERIODICALS AND OTHER MATERIALS INCLUDING FURNITURE AND CARPETING DURING CONSTRUCTION. RESPONSIBILITY FOR DAMAGE IS ON THE CONTRACTOR.

FIRE PUMP NOTE (GLENNS ONLY):

SYSTEM IS TO BE SUPPLIED BY AN EXISTING WELL AND A NEW 22,000 GALLON STORAGE TANK. REFER TO CIVIL DRAWING FOR COORDINATION OF CONNECTIONS.



ENLARGED SPRINKLER ROOM

SCALE: 1/4" = 1'-0"

1 FP1.1G FP1.1W

NEW WORK NOTES

1. BACKFLOW PREVENTER TO BE PROVIDED AT WARSAW CAMPUS ONLY. GLENNS CAMPUS IS FED FROM A STORAGE TANK AND DOES NOT REQUIRE A BACKFLOW PREVENTER. STORAGE TANK AT GLENN'S CAMPUS WILL BE FILLED VIA AN AIR GAP.
2. REFER TO FP1.1 FOR CONTINUATION.
3. NOT USED.
4. FOR CONTINUATION REFER TO SITE PLAN ON DRAWINGS SP2.1G AND SP2.1W.
5. PROVIDE CONDUIT FOR ALARM/CONTROLS.
6. FIRE PUMP TEST HEADER.
7. GLENNS SUPPLY WATER FROM STORAGE TANK FOR FIRE WATER ONLY IS FILLED BY AIR GAP.

Pace COLLABORATIVE
MECHANICAL ELECTRICAL ENGINEERS
VIRGINIA BEACH, VA - 757-499-7223

GRAPHIC SCALES

1/4" = 1'-0" 5' 0' 5' 10'

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CAMPUS RENOVATIONS
WARSAW + GLENNS, VIRGINIA
PC: 260-17712

FIRE PROTECTION GENERAL NOTES, LEGEND, DETAILS, and SCHEDULES

Date: APRIL 21, 2010

REVISIONS

NO.	DATE
1	FEBRUARY 9, 2010
2	MARCH 3, 2010
3	APRIL 21, 2010

COMMONWEALTH OF VIRGINIA
JOHN M. NEWELL
Lic. No. 035329
04.21.10
PROFESSIONAL ENGINEER

Sheet SP0.1

File Number 9004